REMARKS

Claims 8-21 are pending in the application. Claims 14-21 are canceled herein as being drawn to a non-elected invention. Minor changes have been made to the specification to correct typographical errors. No new matter has been added.

Claims 8-10 and 12-13 stand rejected under 35 U.S.C. §102(e) for anticipation by or, in the alternative, under 35 U.S.C. §103(a) for obviousness over U.S. Patent No. 5,978,538 to Miura et al. (hereinafter "Miura"). The Examiner asserts that Miura discloses the process of selectively reforming an inner part of an inorganic body, such as glass, by emitting a pulsed laser beam and condensing the pulsed laser beam at a focal point in the inner part of the inorganic body. The Examiner notes that Miura teaches that silicate glass can contain a rare earth such as Ce, and that other glasses can contain transition metals such as La. The Examiner also stated that Miura teaches a process conducted with a wavelength different from the intrinsic absorption wavelength of the glass.

Claim 11 stands rejected under 35 U.S.C. §103(a) for obviousness over the Miura patent. The Examiner asserts that Miura shows transition metals such as Zn, Zr, Cd and La included in the glasses, and that it would therefore be obvious to include other transition metals such as those recited in claim 11, because one skilled in the art would expect that glasses containing the claimed transition metals would behave in the desired manner of changing their refractive indexes when treated with a pulsed laser in view of the teachings of Miura.

According to the present invention, the valence of rare earth and/or transition metal ion present in an inorganic body is changed by irradiation with a pulsed laser beam condensed at a focal point in an inner part of the inorganic body. The inner part, where the valence of the rare earth and/or transition metal ion has been changed, is differentiated from the

other part by spectrum analysis so that the processed inorganic body enables 1/0 discrimination for use as an optical memory. Such a change of valence is also useful for other functional elements such as a laser device or filter. The present claims, as amended, are drawn to particular functional elements. Support is found on page 4, lines 26-28 of the specification.

On the other hand, Miura aims at change of refractive index for fabrication of a waveguide. Although change of refractive index is realized by irradiation with a pulsed laser beam condensed at a focal point in an inner part of a glass body, change of valence is neither described nor suggested by Miura. The presence of P, Ce, Ge, Zr and/or La in the glass body is to promote change of refractive index but not to induce change of valence. One skilled in the art would not expect to accomplish change of valence with the same selections of metal ions, beam frequency, beam intensity and pulse parameters used to produce change of refractive index. It is quite naturally understood that the processed glass body of Miura is used as a waveguide. Change of refractive index does not produce the functional elements required in claims 8-13 in the present application.

The optical memory, laser device and filter recited in the present claims rely on a change of valence to perform their functions. Because Miura does not distinguish change of valence and change of refractive index, does not teach or suggest change of valence, and does not teach or suggest devices relying on change of valence, as recited in claims 8-13 as currently amended, the present invention is neither anticipated by, nor obvious over, Miura.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration of the rejections and allowance of claims 8-13 are respectfully requested.

Respectfully submitted,

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